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"Welcome Shelter Near Trail's End"

FEDERAL-STATE COOPERATIVE
SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for

ARIZONA

FEBRUARY 15, 1947

By

Division of Irrigation, Soil Conservation Service
United States Department of Agriculture

Data included in this report were obtained by the agency named above in cooperation with the Federal, State, and local organizations listed on the last page of this report.



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FOR
ARIZONA

Report Prepared
by
Clyde E. Houston—Hydraulic Engineer

DIVISION OF IRRIGATION
SOIL CONSERVATION SERVICE
AGRICULTURAL EXPERIMENT STATION
RENO, NEVADA

ARIZONA
COOPERATIVE SNOW SURVEYS

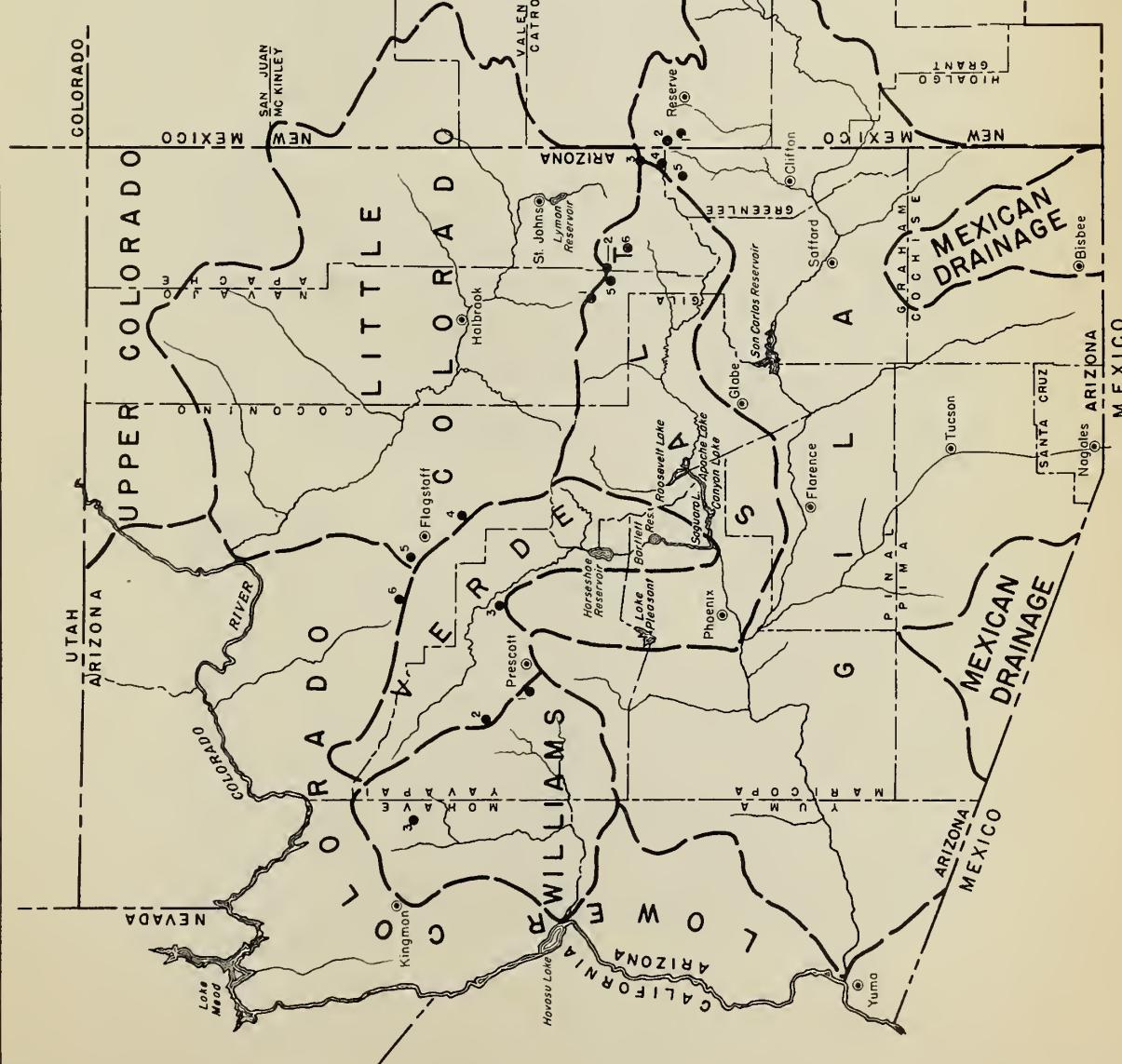
SNOW COURSES AND DRAINAGE BASINS

October 9, 1946

SCALE IN MILES
32 0 32 64

INDEX TO SNOW COURSES

NUMBER	NAME	ELEVATION
1.	LITTLE COLORADO RIVER	6,000
2.	Forest Dale	7,200
3.	Sherry	8,500
4.	Mariado	7,500
5.	Norman Lake	7,500
6.	Port Valley	7,500
7.	WILLIAMS RIVER	6,200
8.	Iron Springs	5,700
9.	Orchard	5,000
10.	Willow Ranch	5,000
11.	OILA RIVER	8,000
12.	Prisco Divide	8,000
13.	State Line	8,000
14.	Autriado	8,000
15.	Coronado	8,000
16.	Verde Ranch	8,000
17.	Taylor Creek	7,850
18.	Iman	7,850
19.	Verde River	6,200
20.	Iron Springs	5,100
21.	Camp Wood	5,100
22.	Hartman Mountain	5,100
23.	Elkhorn	7,350
24.	Port Valley	7,350
25.	Chandler	7,100
26.	SALT RIVER	6,000
27.	Forest Dale	7,200
28.	McMurry	7,200
29.	Florero	8,000
30.	Port Dale	8,000
31.	Milk Ranch	7,000
32.	Milk Bay	8,250



WATER SUPPLY OUTLOOK

Arizona
February 15, 1947

* February 15, 1947 snow surveys
* show that Arizona is still in a
* period of drought. Runoff con-
* tinues good but indications are
* that ground water storage is being
* drawn upon to furnish surface flow.
* Precipitation is far below normal
* as is snow water content. Impor-
* tant storage reservoirs are danger-
* ously low. At this date it appears
* that only a period of prolonged,
* above normal precipitation can
* alleviate the drastic shortage of
* irrigation water.

Precipitation Since January 1, precipitation throughout Arizona has been far below normal. On Little Colorado River Watershed it is about 40 percent of normal and only 30 percent of last year. On Williams it is 15 and 30 percent while on the Gila it is 40 and 35 percent respectively of normal and 1946. The Verde received about 30 percent of normal and 40 percent of last year and the Salt about 45 percent of both. These conditions exist on the mountainous portions of the watersheds as well as the valley lands.

Snow Cover As of February 15, 1947, snow cover throughout Arizona is extremely low. In all watersheds the cover is below normal and in most cases is lower than at any time on record. On Little Colorado it is about 40 percent of normal, and 30 percent of last year. Gila River Watershed is extremely low being only 5 percent of normal and 6 percent of last year. Salt River snow cover is also low having only 10 percent of normal and last year. Snow cover on Williams and Verde River watersheds is also below normal. General soil moisture conditions on the upper reaches of the watersheds is fair to poor while in the major irrigated valleys it is about 50 percent of normal. Many of the desert ranges are barren of spring feed.

Runoff With the exception of the Gila, stream discharge continues above normal, but not to the extent measured during the early part of the water year. Gila River continues about 90 percent of normal while Little Colorado and Williams are slightly above. Salt and Verde are approximately 115 percent above normal. The low precipitation and general continuation of above normal runoff indicates that soil moisture and ground water storage on the upper reaches of the streams is being drawn upon to furnish surface runoff.

Reservoir Storage Present water storage in most of the important Arizona reservoirs is far below the February 15 normal, with very little improvement over storage a month ago. As of this date storage in the Salt River Reservoirs is about 55 percent of the 1936-45 average and 60 percent of last year. San Carlos Reservoir with usable storage capacity of about 1,200,000 acre-feet contains about 19,000 acre feet, which is 10 percent of the 1936-45 average and 70 percent of last year. Bartlett Reservoir is 50 percent of average while Lake Pleasant is 13 percent. Present storage on Verde and Little Colorado Rivers is better than the past few years on this date.

TABLE I
ARIZONA SNOW SURVEYS FEBRUARY 15, 1947

DRAINAGE BASIN and SNOW COVER	Number	Sec.	Twp.	Rge.	Elev. of Survey	Date Snow Depth (Inches)	SNOW COVER MEASUREMENTS		
							Same as 1946	1947	1946 1945 Record
LITTLE COLORADO RIVER									
Forest Dale	1	2	9N	21E	6000	2/17	0	0	2.5
McMary	2	14	8N	23E	7200	2/17	0.9	0.4	3.1
Nutrioso	3	25	6N	30E	8500	2/14	1.0	0.4	1.7
Yormon Lake	4	13	13E	8E	7350	2/14	7.0	1.7	New Snow Course " " "
Fort Valley	5	22	22N	6E	7350	2/14	T	T	0.6
WILLIAMS RIVER									
Iron Springs	1	22	14N	31	6200	2/12	0	0	0.1
Camp Wood	2	3	16N	6W	5700	2/15	0	0	2.6
Willow Ranch	3	16	21N	11E	5000	2/15	0	0	2.2
GILA RIVER									
Frisco Divide	1	31	6S	20E	8000	2/17	0	0	3.1
State Line	2	6	6S	21W	8000	2/17	0	0	4.2
Nutrioso	3	23	6N	30E	8500	2/14	1.0	0.4	1.6
Coronado Trail	4	26	5H	30E	8000	2/14	0.6	0.2	3.4
Beaver Head	5	13	4N	30E	8000	2/17	0	0	3.5
Taylor Creek	6	20	10S	10W	8500	2/15	0	2.3	4.6
Inman	7	6	11S	10W	8500	2/15	0	1.1	3.2
							0	0	0.4
							0	1.5	0.8

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ARIZONA STREAMS SURVEYS FEBRUARY 15, 1947

DRAINAGE BOUNDARY and S. C. C. C. R. S.	Number	Sec.	Twp.	Re. elev.	Date of Survey	Snow Depth (Inches)	Survey (Inches)	SIGHT MEASUREMENTS		Water Content Series Approx.	Date	Years of Record	Av. Water Content (Inches)
								Sign.	Cover				
VERDE RIVER													
Iron Springs	1	22	14N	3W	6200	2/12	0	0	T	New Snow Course			
Camp Wood	2	3	16N	6W	5700	2/15	0	0	"	"			
Mingus Mountain	3	3	15N	2E	7100	2/14	0	0	T	New Snow Course			
Mormon Lake	4	13	18N	8E	7550	2/14	7.0	1.7	"	"			
Fort Valley	5	22	22N	6E	7350	2/14	T	"	"	"			
Chalander	4	27	22N	3E	7100	2/17	0.9	0.3	"	"			
SALT RIVER													
Forest Dale	1	2	9N	21E	6000	2/17	0	0	2.5	0.1	8	6.6	
McNary	2	14	8N	23E	7200	2/17	0.9	0.4	3.1	2.1	8	2.6	
Nutrioso	3	23	6N	30E	8500	2/14	1.0	0.4	1.7	1.6	8	2.2	
Coronado Trail	4	26	5N	30E	6000	2/14	0.6	0.2	1.6	5.4	8	3.5	
Milk Ranch	5	28	8N	23E	7000	2/17	0	0	1.6	0.2	7	1.2	

TABLE 2

STATUS OF RESERVOIR STORAGE, February 15, 1947

BASIN And STREAM	RESERVOIR	USABLE CAPACITY (Thous. A.F.)	THOUSANDS ACRE FEET IN STORAGE About Feb. 15					10-Yr. Avg. 1936-1945
			1947	1946	1945	1944	1944	
Agua Fria	Lake Pleasant	179	3	4	7	3		24
Colorado	Lake Havasu	688	629	605	571	581		506 ^a
Colorado	Lake Mead	27,935	16,922	18,561	19,086	20,255		20,427 ^a
Gila	San Carlos	1,200	19	28	105	281		243
Little Colorado	Lyman	29	13	4	2	3		7 ^b
Salt River	Salt River ^c	1,771	425	725	891	1,022		785
Verde	Bartlett	179	34	1	17	20		67 ^b
Verde	Horseshoe	67	16	10	New Reservoir			

a - Average for years 1939 through 1945

b - Average for years 1941 through 1945

c - Includes Roosevelt, Apache, Saguaro Canyon Lakes

LIST OF SNOW SURVEYORS

<u>SNOW COURSE</u>	<u>SURVEYOR</u>
Forest Dale	Kindred & Schroeder
McNary	Kindred & Schroeder
Nutrioso	R. L. Diggs
Mormon Lake	M. F. Greaves
Fort Valley	E. C. Martin
Iron Springs	Ernest Saxby
Camp Wood	Mrs. C. C. Merritt
Willow Ranch	Tiny Miller
Frisco Divide	Dean M. Earl
Coronado Trail	R. L. Diggs
Beavor Head	Jes Burke
Taylor Creek	F. M. Inman
Inman	F. M. Inman
Mingus Mountain	Harold Linn
Chalender	V. J. Schroeder
Milk Ranch	Kindred & Schroeder
State Line	Dean M. Earl

The following organizations cooperate in the Arizona snow survey work:

STATE

Nevada Agricultural Experiment Station
Reno, Nevada

FEDERAL

Department of Agriculture
Forest Service
 Apache Forest
 Coconino Forest
 Gila Forest
 Kaibab Forest
 Southwestern Forest and Range Expt.
 Station, Fort Valley, Arizona
Soil Conservation Service
 Division of Irrigation

Department of Commerce
Weather Bureau
 Arizona Section

Department of Interior
Bureau of Reclamation
 Region III
 Geological Survey
 Arizona District
 Indian Service
 Fort Apache Reservation

Gila Water Commissioner
Safford, Arizona

IRRIGATION PROJECTS

Salt River Valley Water Users Association
Phoenix, Arizona

San Carlos Irrigation and Drainage District
Coolidge, Arizona

Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

